

REMARKS

Applicant requests favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 13-26 are presented for consideration. Claims 13 and 21 are independent. Claims 13, 15-19 and 21 have been amended to clarify features of the subject invention, while claim 26 has been added to recite additional features of the subject invention. Support for these changes and this claim can be found in the original application, as filed. Therefore, no new matter has been added.

Applicant requests favorable reconsideration and withdrawal of the rejections set forth in the above-noted Office Action.

Claims 13-18 and 21-23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Japanese patent document number 7-267192 to Yagishita. Claims 19, 20, 24 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Yagashita document in view of U.S. Patent No. 6,496,248 to Tanaka. Applicant submits that the cited art, whether taken individually or in combination, does not teach many features of the present invention, as previously recited in claims 13-25. Therefore, these rejections are respectfully traversed. Nevertheless, Applicant submits that claims 13-26, as presented, amplify the distinctions between the present invention and the cited art.

In one aspect of the present invention, independent claim 13 recites a supporting apparatus for supporting a weight of a member which mounts a movable stage to a base. The apparatus includes a first permanent magnet arranged on one of the member and the base, a

second permanent magnet unit arranged on the other of the member and the base on which the first permanent magnet is arranged, and arranged so that the first permanent magnet is interposed. The magnetized directions of the first permanent magnet and the second permanent magnet unit are perpendicular to a gravity direction of the member, and a width size of the second permanent magnet unit in a perpendicular direction to the magnetized directions and the gravity direction is different from a width size of the first permanent magnet.

In another aspect of the present invention, independent claim 21 recites a supporting apparatus for supporting a weight of a member which mounts a movable stage to a base in a first direction. The apparatus includes a first permanent magnet arranged on the member, and magnetized in a first direction perpendicular to a gravity direction, a second permanent magnet unit arranged on the base, and arranged so that the first permanent magnet is interposed, and a moving device for moving a plurality of magnets which constitute the second permanent magnet unit in a second direction perpendicular to the first direction and the gravity direction.

Accordingly, one aspect of the invention is the ability of the supporting apparatus to support a weight of a member which mounts a movable stage to a base. By way of example, the supporting apparatus of the present invention recited in independent claim 13 includes a first permanent magnet and a second permanent magnet, and generates a supporting force used for supporting the weight of the member. Magnetized directions of the first permanent magnet and the second permanent magnet are perpendicular to a gravity direction of the member. These magnetized directions are shown by the arrows in Figure 4A, for example, of the subject application. Furthermore, a width size of the second permanent magnet unit in a direction

perpendicular to the magnetized directions and the gravity direction is different from a width size of the first permanent magnet. This is also shown in Figure 4A, for example, of the subject application. By way of example, the width of the second permanent magnet in the direction perpendicular to the gravity direction and the magnetized directions can be larger than the width of the first permanent magnet in the direction perpendicular to the gravity direction and the magnetized directions.

In the subject invention, the first permanent magnet and the second permanent magnet can be configured to generate a supporting force in accordance with a position of a movable stage mounted on a member. Generally speaking, because the permanent magnet is not controlled based on a power supply, a heat amount generated by the controlling of a relative position of the permanent magnets is less than a heat amount generated by the controlling of the electromagnet. Accordingly, the present invention makes it possible to lessen the heat amount transmitted to the movable stage and the member which mounts the movable stage.

Applicant submits that the cited art, whether taken individually or in combination, does not teach or suggest such features of the present invention, as recited in independent claims 13 and 21.

The Yagashita document discusses an anti-vibration unit used for a helicopter body. According to that document, by using the anti-vibration unit, a force, which occurs in the helicopter body 2 and transmitted to a cabin 1, is reduced. In the configuration of the electromagnets, the N-S directions of the electromagnets (3, 4 and 4') are in the same direction as the gravity direction of the helicopter body 2 and the cabin 1. Therefore, they are not

perpendicular to the gravity direction of the helicopter body 2 and the cabin 1. In this regard, the present invention recited in independent claims 13 and 21 differs significantly from the Yagashita document. Accordingly, the Yagashita document does not teach or suggest at least the features of the present invention recited in independent claim 13 wherein magnetized directions of the first permanent magnet and the second permanent magnet unit are perpendicular to a gravity direction of the member, or the features of the present invention recited in independent claim 21 in which moving means moves a plurality of magnets which constitute a second permanent magnet unit in a second direction perpendicular to a first direction and the gravity direction.

Still further, Applicant submits that the Yagashita document does not teach or suggest anything regarding differences in width size of the electromagnets (3, 4 and 4'). Accordingly, the Yagashita document does not teach these features of the present invention recited in independent claim 13, as well.

For the reasons noted above, Applicant submits that the Yagashita document does not teach or suggest many features of the present invention, as recited in independent claims 13 and 21, and should not be read to anticipate Applicant's invention.

Applicant further submits that the remaining art cited does not cure the deficiencies noted above with respect to the Yagashita document.

The Tanaka patent shows a stage device in Figure 1. Applicant submits, however, that the Tanaka patent, as with the Yagashita document, fails to teach or suggest the particular configurations of the magnetized directions of the first permanent magnet and the second

permanent magnet unit in the manner of the present invention, which are perpendicular to the gravity direction of the member to be supported (independent claim 13). Likewise, that patent is silent with respect to a width size of the second permanent magnet unit in the perpendicular direction to the magnetized directions and the gravity direction being different from the width size of the first permanent magnet (independent claim 13). Likewise, that patent does not teach or suggest anything regarding moving means for moving a plurality of magnets which constitute a second permanent magnet unit in a second direction perpendicular to a first direction and a gravity direction (independent claim 21). Accordingly, the Tanaka patent likewise does not teach or suggest salient features of Applicant's present invention, as recited in independent claims 13 and 21. Therefore, Applicant submits that the Tanaka patent adds nothing to the teachings of the Yagashita document that would render obvious Applicant's present invention, as recited in independent claims 13 and 21.

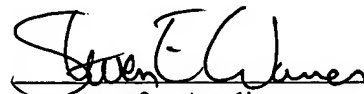
For the foregoing reasons, Applicant submits that the present invention, as recited in independent claims 13 and 21, is patentably defined over the cited art, whether that art is taken individually or in combination.

Dependent claims 14-20 and 22-26 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in their respective independent claims. Further individual consideration of these dependent claims is requested.

Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action and an early Notice of Allowance are also requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010 All correspondence should continue to be directed to our address given below.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Steven E. Warner", is written over a horizontal line.

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